



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/711,439	09/18/2004	Alberto Garcia Briz	03809	5438
23688	7590	06/26/2006	EXAMINER	
Bruce E. Harang PO BOX 872735 VANCOUVER, WA 98687-2735			TRIEU, VAN THANH	
			ART UNIT	PAPER NUMBER
			2612	

DATE MAILED: 06/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/711,439	GARCIA BRIZ, ALBERTO	
	Examiner Van T. Trieu	Art Unit 2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 25 May 2006.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-21 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-21 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 25 May 2006 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date 5/25/06.

4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.
 5) Notice of Informal Patent Application (PTO-152)
 6) Other: _____.

DETAILED ACTION***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-5, 13-15, 19 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by **Bejster et al** [US 5,680,098].

Regarding claim 1, the claimed a rear lighting system applied to an automotive vehicle, of the type comprising: at least one supporting element and a plurality of light sources assembled on the at least one supporting element (the plurality of front lights 14 and rear lights 16, see Figs. 2 and 3, col. 2, lines 4-38); and a control means electrically connected to the light sources to actuate them such that the light sources can emit with at least two light intensity levels suitable to carry out at least two corresponding lighting functions, one of the lighting levels consisting of acting as brake lights (the controller 12 controls to operate one, two or more different functions and intensities for each of the vehicle front lights 14 including a low beam light 20, a high beam lights 20, a fog light 24, a front turn indicator light 26 and a front parking light 28; and the rear lights 16 including the rear parking light 30, a rear turn indicator light 32, a brake light 34 and a reverse light 36. A driver can activate more than two lights such as the low beam lights 20, fog light 24 and/or turn indicator lights 26, 32, brake lights 34 at the same time

period as required and necessary for traffic safety at night time, see Figs. 2-4, col. 1, lines 41-44 and col. 2, lines 4-50); and characterized in that the control means comprise detection means for detecting a malfunctioning of at least one of the light sources, and in that the control means are adapted to compensate for a corresponding variation in the total light intensity provided by the system due to the malfunctioning by means of actuating or deactivating at least another one of the light sources and/or increasing or decreasing the current to be made to circulate through at least the other light source or another different one (the when the current detector 48 senses a failure of anyone of the vehicle lights above, the processor 40 determines which adjacent light should be provide the function of the failed light and the same intensity of the failure light, see Fig. 4, col. 1, lines 44-49, col. 2, lines 51-67, col. 3, lines 1-52 and col. 4, lines 1-18).

Regarding claim 2, the claimed a plurality of light sources are divided into a first group or main group, and a second group or spare group, which are actuated by the control means to compensate for the malfunction of any of the light sources of the first group if necessary (the controller 12 with processor 40 to actuate any adjacent lamps to compensate for any of the failure lights 14 or 16, see Figs. 2-4, col. 1, lines 44-49, col. 2, lines 51-67 and col. 3, lines 1-1-37).

Regarding claim 3, all the claimed subject matters are cited in respect to claim 1 above.

Regarding claim 4, the claimed acting as anti-fog lights (the fog lamp 24, see Fig. 2).

Regarding claim 5, the claimed third lighting function consisting of acting as side lamps (the side lamps 50 and 52, see Fig. 4, col. 2, lines 44-48).

Regarding claim 13, all the claimed subject matters are cited in respect to claim 1 above, see Fig. 4.

Regarding claim 14, the claimed PWM technique (the PWM 44, see Fig. 4, col. 2, lines 44-63).

Regarding claim 15, the claimed brake lights (the brake lamps 34, see Fig. 3, col. 2, lines 32-38).

Regarding claim 19, all the claimed subject matters are cited in respect to claims 1 and 4 above.

Regarding claim 20, all the claimed subject matters are cited in respect to claim 4 above.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Bejster et al** [US 5,680,098] in view of **Bruwer et al** [US 6,828739].

Regarding claim 6, **Bejster et al** fails to disclose the light sources are LEDs. However, **Bejster et al** teaches that the front lights 14 and rear lights 16 are conventional light/bulb having to filaments, see Figs. 2 and 3, col. 1, lines 13-19). **Bruwer et al** suggests that two LEDs 18 and 20 are for use on the vehicle such as headlights, brake lights, tail lights, and so on, may take on any form comprising incandescent elements or filaments, halogen quartz units, discharge devices. Upon detecting failure of one of the light sources, the other light source will be actuated for compensating the failure light source, see Figs. 1-3, col. 1, lines 35-58 and col. 2, lines 12-18. Therefore, it would have been obvious to one skill in the art at the time the invention was made to substitute the LEDs light sources of **Bruwer et al** for the conventional light bulbs of **Bejster et al** because the light source can be taken in any form without limiting the operation functions of the light sources.

3. Claims 7-12 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Bejster et al** and **Bruwer et al** and further in view of **Tillinghast et al** [US 5,785,413].

Regarding claim 7, **Bejster et al** fails to disclose supporting element is a rigid or flexible printed circuit and in that the LEDs are welded to electro-conducting tracks thereof.

Bejster et al silences of the assembly the front lights 14 and rear lights 16 to the light case assembly, see Figs. 2 and 3. **Tillinghast et al** suggests that the light/lamp fixture 10 having control circuitry mounted on a common printed circuit board PC 12, which is fit in standardized light fixture openings utilized in some vehicle manufacture, see Figs. 1-3, col. 3, lines 21-27. Therefore, it would have been obvious to one skill in the art at the time the invention was made to utilize the PC of **Tillinghast et al** for mounting the front/rear lights or LEDs of **Bejster et al** and **Bruwer et al** since the PC is designed to fit in standardized light fixture in the vehicle.

Regarding claim 8, **Bejster et al** fails to disclose the control means comprises an electronic system comprising at least one microprocessor associated to the detection means. However, **Bejster et al** teaches that the controller 12 has a processor 40, a memory 42, PWM 44, a multiplexer 46 and a current detector 48, see Fig. 4, col. 2, lines 39-45. **Tillinghast et al** suggests that the controller 44 as a microcontroller or a microprocessor is in communication with the trigger circuit 54, low intensity lamp switch means 50 and an external control circuit 43 to operate the vehicle light functions, see Fig. 4, col. 4, lines 11-28. Therefore, it would have been obvious to one skill in the art at the time the invention was made to substitute the microprocessor of **Tillinghast et al** for the processor of **Bejster et al** and **Bruwer et al** since the processor has memory and multiplexer circuits and PWM integrated into a single chip to eliminate wires/cables, size and weight of the controller.

Regarding claim 9, all the claimed subject matters are discussed between **Bejster et al** and **Bruwer et al** and **Tillinghast et al** in respect to claim 8 above, see Figs. 2, 3 of **Bejster et al** and 1, 3 of **Tillinghast et al**.

Regarding claim 10, all the claimed subject matters are discussed between **Bejster et al** and **Bruwer et al** and **Tillinghast et al** in respect to claim 9 above.

Regarding claim 11, all the claimed subject matters are discussed between **Bejster et al** and **Bruwer et al** and **Tillinghast et al** in respect to claim 9 above.

Regarding claim 12, **Bejster et al** fails to disclose the electronic system forms part of a computer on board the vehicle. However, **Bejster et al** teaches that the external switch input 56 and indicator 58 such as dash light or an audible indicator is connected to the controller 12 with processor 40 to provide information to the vehicle operator as to the operation of the vehicle lamps 14 and 16, see Fig. 4, col. 2, lines 49-50 and col. 3, lines 12-28. **Tillinghast et al** suggests that the controller 44 as a microcontroller or a microprocessor is in communication with the trigger circuit 54, low intensity lamp switch means 50 and an external control circuit 43 as a simple microcontroller/microprocessor located at the driver's compartment, which allows a driver/user to operate the vehicle light functions, see Fig. 4, col. 4, lines 11-28, col. 5, lines 65-67 and col. 6, lines 1-14. Therefore, it would have been obvious to one skill in the art at the time the invention was made to substitute the external microcontroller of **Tillinghast et al** for the external

switch and indicator of **Bejster et al** and **Bruwer et al** since the external microcomputer includes addresses for controlling each of the vehicle lighting system.

Regarding claim 18, all the claimed subject matters are discussed between **Bejster et al** and **Bruwer et al** and **Tillinghast et al** in respect to claims 12 and 15 above.

4. Claims 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Bejster et al** [US 5,680,098] in view of **Freeman et al** [US 5,231,373].

Regarding claim 16, **Bejster et al** fails to disclose the sudden speed reduction of the vehicle is detected by means of an accelerometer included in the system. However, **Bejster et al** teaches that the controller 12 operates a brake lamp 34 operate when the brake pedal of the vehicle is being depressed, see Fig. 3, col. 2, lines 32-33. The rear turn lamp 32 or rear park lamp 30 would also acts as a brake lamp function when the brake lamp 34 is failure, see Figs. 3 and 4, col. 4, lines 8-11. **Freeman et al** suggests that a vehicular illumination control system 10 automatically controls intensity of a signal light source, center mounted brake signal SL, brake lights 14L, 14R, a sudden deceleration and/or light level due to depress of a brake pedal 12 and sensed by an accelerometer sensor as a G-force 16, see Figs. 1 and 2, col. 2, lines 13-28 and col. 4, lines 36-68. Therefore, It would have been obvious to one skill in the art at the time the invention was made to implement the accelerometer sensor of **Freeman et al** to the controller of **Bejster et al** for automatically illuminate the brake lights due to suddenly

deceleration caused by brake pedal, accident, tilting road and/or road conditions in order to early warning of following vehicles and to prevent of collision.

Regarding claim 17, all the claimed subject matters are discussed between **Bejster et al** and **Freeman et al** in respect to claim 16 above, and the inclinometer (G-force sensor 16).

5. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Bejster et al** [US 5,680,098] in view of **Okubo et al** [US 6,969,183].

Regarding claim 6, **Bejster et al** fails to disclose the fog sensor device comprises at least one humidity sensor and one temperature sensor. However, **Bejster et al** teaches that a controller 12 controls to actuate a fog lamp 24 is actuated due to fog conditions, see Fig. 2, col. 2, lines 7-10. **Okubo et al** suggests that a digital lighting system for a vehicle comprising a controller 6 coupled to an environmental detector 5 for determining whether it is foggy based on at least one of the image signal obtained by imaging the information on surroundings of the vehicle by the imaging device of the surrounding environment detector 5 and output from the imaging device, the radar signal obtained by detecting the reflected wave from the target in the surroundings of the vehicle by the radar of the surrounding environment detector 5 and output from the radar, the humidity signal obtained by detecting the humidity of the surroundings of the vehicle by the humidity sensor of the surrounding environment detector 5 and output from the humidity sensor, and the temperature signal obtained by detecting the temperature of the

surroundings of the vehicle by the temperature sensor of the surrounding environment detector 5 and output from the temperature sensor, and outputs a signal indicating that it is foggy or a signal indicating that it is not foggy, see Figs. 1, 14, 15 and 18, col. 2, lines 49-67, col. 3, lines 1-23 and col. 17, lines 23-30. Therefore, it would have been obvious to one skill in the art at the time the invention was made to implement the humidity and temperature environmental detector of **Okubo et al** to the controller of **Bejster et al** for improving the reliability of the vehicle lighting system by automatically detecting of foggy conditions to actuate the fog lamp for helping a driver visibility to prevent incident.

Response to Arguments

6. Applicant's arguments filed on 25 May 2006 have been fully considered but they are not persuasive. Because,

Applicant's arguments:

- (A) **Bejster et al** does not teaching the ability to activate or modify the light intensity of more than two paired light sources, nor is there any teaching or suggestion that this would be possible or desirable.
- (B) There is nothing in **Bejster et al** reference which discloses, teaches or suggests to one skilled in the art how to modify the reference to provide for a plurality of light sources any of which may be substituted for a failed light source or to adjust the light intensity of more than one adjacent light source to allow for the overall system light intensity level to be maintained.

(C) **Bejsler et al** reference does not disclose, teaches or suggest the use of multiple light sources to provide compensating for the loss of light intensity due to a failure of one light source, nor the ability of activating a second light source not adjacent to the failed first light source.

Response to the arguments:

(A) The controller of **Bejster el al** reference designs to provide and activate differences of variety light functions for a vehicle front and rear lighting systems, such as the low beam light, high beam lights, fog light, front turn indicator lights, front parking light, rear parking light, rear turn indicator light, brake light and reverse light. A driver can activate more than two lights such as the low beam lights, fog light and/or turn indicator lights, brake lights at the same time period as require and necessary for traffic safety during driving at night.

(B) The controller of **Bejster el al** reference designs to modulate and changing operation functions and intensity level of at least one light for compensating of any detected failure light so as to keep the same function and brightness of the brake lights, turn indicator lights or low beam light, etc..

(C) The controller of **Bejster el al** reference designs to adapt any vehicle light source for substituting of the failure/loss one.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Dietz et al discloses a control device for controlling to provide a substituted light with the operation function and brightness or intensity of a detected failure one of a vehicle lights. [US 5,909,174]

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from examiner should be directed to primary examiner **Van Trieu** whose telephone number is (571) 272-2972. The examiner can normally be reached on Mon-Fri from 7:00 AM to 3:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Mr. Mike Horabik** can be reached on (571) 272-3068.



Van Trieu
Primary Examiner
Date: 6/20/06